Kuniyoshi NAKASHIMA et al., S.N. 10/522,136   Dkt. 1141/75270
Page 12

REMARKS

The application has been reviewed in light of the Office Action dated July 23, 2008

Claims 1-20 were pending. By this Amendment, claims 1 and 11 have been amended to correct

informalities therein, claim 4 has been amended to clarify the claimed subject matter thereof, and

new claims 21-23 have been added.   Accordingly, claims 1-23 would be pending upon entry of

this Amendment, with claims 1 and 11 being in independent form.

Claims 1-4, 6, 9-14, 16, 19 and 20 were rejected under 35 U.S.C. §103(a), as purportedly

unpatentable over Sabol et al. (US 2004/0101086 A1) and further in view of U.S. Patent No.

6,278,761 to Kim et al. Claims 5 and 15 were rejected under 35 U.S.C. §103(a) as purportedly

unpatentable over Sabol in view of Kim and further in view of Grauer et al., "Quantification of

Body far Distribution in the Abdomen using Computer Tomography." Claims 7, 8, 17 and 18

were rejected under 35 U.S.C. §103(a) as purportedly unpatentable over Sabol in view of Kim

and further in view of U.S. Patent No. 7,155,047 to Wollenweber.

Applicant respectfully submits that the present application is allowable over the cited art,

for at least the reason that the cited art does not disclose or suggest the aspect of the present

application of extracting a non-adipose region from the body region, and then separating the total

adipose region into a visceral adipose region and a subcutaneous adipose region based on

__positional information__ of the non-adipose region.   Each of independent claims 1 and 6

addresses such aspect, as well as additional features.

Sabol, as understood by Applicant, proposes an approach for quantifying tissue fat

content using a multi-energy computed tomography (MECT) system.

Sabol, [0046] (reproduced below), was cited in the Office Action:

> [0046] In use, method 90 includes *acquiring 92 MECT anatomical image
> data for tissue 74, and segmenting 94 the MECT image data to determine a region*

Kuniyoshi NAKASHIMA et al., S.N. 10/522,136   Dkt. 1141/75270
Page 13

of interest, for example an organ of interest such as a liver. Once the region of
interest is segmented 94 from the surrounding region of tissue, such as tissue 74, a
tissue characterization is determined for the region of interest. More specifically, the
segmented image data is decomposed 96 to obtain a density image representing a
content of fatty tissue within the region of interest and a density image representing a
content of lean tissue within the region of interest. The image representing fatty tissue
content is then merged 98 with the image representing lean tissue content to obtain a
density image that quantifies on a pixel by pixel basis a fat/lean ratio for every point
within the region of interest. In one embodiment, the anatomical image is displayed
conventionally (gray-scale corresponding to CT numbers) while the fat/lean density
image may then be superimposed 100 on the anatomical image to obtain a combined
image for the region of interest. More specifically, the fatty tissue image and the lean
tissue image are registered with each other and the pixel values of the fatty tissue
image are divided by the pixel values of the lean tissue image on a pixel by pixel
basis.

Thus, Sabol proposes an approach that may involve, in some instance, segmenting the

MECT image data to determine a region of interest, which may include a non-adipose region.

However, Sabol, as acknowledged in the Office Action, does not disclose or suggest the

above-mentioned aspect of the present application of separating the total adipose region into a

visceral adipose region and a subcutaneous adipose region based on *positional information* of

the non-adipose region.

Kim, as understood by Applicant, proposes an approach for establishing a range of

somatic fat by Gaussian function approximation in computerized tomography, by obtaining a

histogram of Hounsfield values in computerized tomography image, approximating the

histogram to Gaussian function by least square method and determining the range of somatic fat

from a width and a position of a somatic fat peak in the histogram of Hounsfield values, to

automatically establish the range of somatic fat by considering characteristics of persons and

regions.

Kim, column 3, lines 15-37 (reproduced below), was cited in the Office Action:

The abdominal cavity portion and the subcutaneous portion are separated in

Kuniyoshi NAKASHIMA et al., S.N. 10/522,136   Dkt. 1141/75270
Page 14

the computerized tomography image to separately measure the amounts of intra-abdominal cavity fat and subcutaneous fat (102). *An image of high contrast is obtained as shown in FIG. 3 by narrowing the range of Hounsfield values from -1000 to 1000 to -200 to 100 to separate the abdominal cavity and the subcutaneous portion (11).* In thus obtained image, the pixels having Hounsfield values of -200 to -40 are painted with same color as shown in FIG. 4 (12). In this way, the subcutaneous fat portion is combined into one lump (13). The subcutaneous fat portion is separated into a portion composed of same values so as to separate the abdominal cavity and the subcutaneous portion as shown in FIG. 5. The intra-abdominal cavity and the subcutaneous portion are completely separated by performing the dichotomy on the image obtained as described above as shown in FIG. 6 (14). If the intra-abdominal cavity portion is restored from the separated image by using the original image, the image of the intra-abdominal cavity alone is obtained as shown in FIG. 7 (15). The image of subcutaneous portion can be obtained if the image of interior alone obtained in FIG. 7 is subtracted from the original image (16).

Thus, Kim proposes separating the abdominal cavity portion and the subcutaneous portion based on the Hounsfield values.

However, such approach of Kim does not involve separating the total adipose region into a visceral adipose region and a subcutaneous adipose region based on *positional information of the non-adipose region.*

Neither Kim nor any of the other cited references disclose or suggest such aspect of the present application.

Applicant submits that the cited art, even when considered along with common sense and common knowledge to one skilled in the art, does *NOT* render unpatentable the above-mentioned aspect of the present application of extracting a non-adipose region from the body region, and then separating the total adipose region into a visceral adipose region and a subcutaneous adipose region based on *positional information of the non-adipose region.* Each of independent claims 1 and 6 addresses such aspect, as well as additional features.

Accordingly, applicant respectfully submits that independent claims 1 and 11, and the claims depending therefrom, are patentable over the cited art.

Kuniyoshi NAKASHIMA et al., S.N. 10/522,136   Dkt. 1141/75270
Page 15

In view of the remarks hereinabove, Applicant submits that the application is now in condition for allowance. Accordingly, Applicant earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any fees that are required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,

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